

PAGE: 1

RAW SEQUENCE LISTING PATENT APPLICATION US/09/428,082

DATE: 11/10/1999
TIME: 15:05:27

Input Set: I428082.RAW

This Raw Listing contains the General Information
Section and up to first 5 pages.

1 <110> APPLICANT: LIU, CHUAN-FA
2 FEIGE, ULRICH
3 CHEETHAM, JANET
4 BOONE, THOMAS CHARLES
5 <120> TITLE OF INVENTION: MODIFIED PEPTIDES AS THERAPEUTIC AGENTS
6 <130> FILE REFERENCE: A-527
7 <140> CURRENT APPLICATION NUMBER: US/09/428,082
8 <141> CURRENT FILING DATE: 1999-10-22
9 <150> EARLIER APPLICATION NUMBER: 60/105,371
10 <151> EARLIER FILING DATE: 1998-10-23
11 <160> NUMBER OF SEQ ID NOS: 1133
12 <170> SOFTWARE: PatentIn Ver. 2.1
13 <210> SEQ ID NO 1
14 <211> LENGTH: 684
15 <212> TYPE: DNA
16 <213> ORGANISM: HUMAN
17 <220> FEATURE:
18 <221> NAME/KEY: CDS
19 <222> LOCATION: (1)..(684)
20 <400> SEQUENCE: 1
21 atg gac aaa act cac aca tgt cca cct tgt cca gct ccg gaa ctc ctg 48
22 Met Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
23 1 5 10 15
24 ggg gga ccg tca gtc ttc ctc ttc ccc cca aaa ccc aag gac acc ctc 96
25 Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
26 20 25 30
27 atg atc tcc ccg acc cct gag gtc aca tgc gtg gtg gtg gac gtg agc 144
28 Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
29 35 40 45
30 cac gaa gac cct gag gtc aag ttc aac tgg tac gtg gac ggc gtg gag 192
31 His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
32 50 55 60
33 gtg cat aat gcc aag aca aag ccg ccg gag gag cag tac aac agc acg 240
34 Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
35 65 70 75 80
36 tac cgt gtg gtc agc gtc ctc acc gtc ctg cac cag gac tgg ctg aat 288
37 Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
38 85 90 95
39 ggc aag gag tac aag tgc aag gtc tcc aac aaa gcc ctc cca gcc ccc 336
40 Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
41 100 105 110
42 atc gag aaa acc atc tcc aaa gcc aaa ggg cag ccc cga gaa cca cag 384
43 Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
44 115 120 125

ENTERED

PAGE: 2

RAW SEQUENCE LISTING PATENT APPLICATION US/09/428,082

DATE: 11/10/1999
TIME: 15:05:27

Input Set: I428082.RAW

```

45      gtg tac acc ctg ccc cca tcc cgg gat gag ctg acc aag aac cag gtc      432
46      Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val
47          130                      135                      140
48      agc ctg acc tgc ctg gtc aaa ggc ttc tat ccc agc gac atc gcc gtg      480
49      Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
50      145                      150                      155                      160
51      gag tgg gag agc aat ggg cag ccg gag aac aac tac aag acc acg cct      528
52      Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
53          165                      170                      175
54      ccc gtg ctg gac tcc gac ggc tcc ttc ttc ctc tac agc aag ctc acc      576
55      Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
56          180                      185                      190
57      gtg gac aag agc agg tgg cag cag ggg aac gtc ttc tca tgc tcc gtg      624
58      Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
59          195                      200                      205
60      atg cat gag gct ctg cac aac cac tac acg cag aag agc ctc tcc ctg      672
61      Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
62          210                      215                      220
63      tct ccg ggt aaa
64      Ser Pro Gly Lys
65      225
66      <210> SEQ ID NO 2
67      <211> LENGTH: 228
68      <212> TYPE: PRT
69      <213> ORGANISM: HUMAN
70      <400> SEQUENCE: 2
71      Met Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
72          1                      5                      10                      15
73      Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
74          20                      25                      30
75      Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
76          35                      40                      45
77      His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
78          50                      55                      60
79      Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
80          65                      70                      75                      80
81      Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
82          85                      90                      95
83      Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
84          100                     105                     110
85      Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
86          115                     120                     125
87      Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val
88          130                     135                     140
89      Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
90          145                     150                     155                     160
91      Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
92          165                     170                     175
93      Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
94          180                     185                     190

```

PAGE: 3

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/428,082

DATE: 11/10/1999
TIME: 15:05:27

Input Set: I428082.RAW

```

95      Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
96              195                      200                      205
97      Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
98              210                      215                      220
99      Ser Pro Gly Lys
100     225
101     <210> SEQ ID NO 3
102     <211> LENGTH: 18
103     <212> TYPE: PRT
104     <213> ORGANISM: Artificial Sequence
105     <220> FEATURE:
106     <223> OTHER INFORMATION: Description of Artificial Sequence: PEGYLATED
107     PEPTIDE
108     <400> SEQUENCE: 3
109     Gly Gly Gly Gly Ile Glu Gly Pro Thr Leu Arg Gln Trp Leu Ala Ala
110     1              5              10              15
111     Arg Ala
112     <210> SEQ ID NO 4
113     <211> LENGTH: 18
114     <212> TYPE: PRT
115     <213> ORGANISM: Artificial Sequence
116     <220> FEATURE:
117     <223> OTHER INFORMATION: Description of Artificial Sequence: PEGYLATED
118     PEPTIDE
119     <400> SEQUENCE: 4
120     Gly Gly Gly Gly Ile Glu Gly Pro Thr Leu Arg Gln Trp Leu Ala Ala
121     1              5              10              15
122     Arg Ala
123     <210> SEQ ID NO 5
124     <211> LENGTH: 794
125     <212> TYPE: DNA
126     <213> ORGANISM: Artificial Sequence
127     <220> FEATURE:
128     <223> OTHER INFORMATION: Description of Artificial Sequence: Fc-TMP
129     <220> FEATURE:
130     <221> NAME/KEY: CDS
131     <222> LOCATION: (39)..(779)
132     <400> SEQUENCE: 5
133     tctagatttg ttttaactaa ttaaaggagg aataacat atg gac aaa act cac aca 56
134                                Met Asp Lys Thr His Thr
135                                1              5
136     tgt cca cct tgt cca gct ccg gaa ctc ctg ggg gga ccg tca gtc ttc 104
137     Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe
138     10              15              20
139     ctc ttc ccc cca aaa ccc aag gac acc ctc atg atc tcc cgg acc cct 152
140     Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
141     25              30              35
142     gag gtc aca tgc gtg gtg gtg gac gtg agc cac gaa gac cct gag gtc 200
143     Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
144     40              45              50

```

PAGE: 4

RAW SEQUENCE LISTING PATENT APPLICATION US/09/428,082

DATE: 11/10/1999
TIME: 15:05:27

Input Set: I428082.RAW

```

145      aag ttc aac tgg tac gtg gac ggc gtg gag gtg cat aat gcc aag aca      248
146      Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
147      55                                60                                65                                70
148      aag ccg cgg gag gag cag tac aac agc acg tac cgt gtg gtc agc gtc      296
149      Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val
150      75                                80                                85
151      ctc acc gtc ctg cac cag gac tgg ctg aat ggc aag gag tac aag tgc      344
152      Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
153      90                                95                                100
154      aag gtc tcc aac aaa gcc ctc cca gcc ccc atc gag aaa acc atc tcc      392
155      Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
156      105                                110                                115
157      aaa gcc aaa ggg cag ccc cga gaa cca cag gtg tac acc ctg ccc cca      440
158      Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
159      120                                125                                130
160      tcc cgg gat gag ctg acc aag aac cag gtc agc ctg acc tgc ctg gtc      488
161      Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
162      135                                140                                145                                150
163      aaa ggc ttc tat ccc agc gac atc gcc gtg gag tgg gag agc aat ggg      536
164      Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
165      155                                160                                165
166      cag ccg gag aac aac tac aag acc acg cct ccc gtg ctg gac tcc gac      584
167      Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp
168      170                                175                                180
169      ggc tcc ttc ttc ctc tac agc aag ctc acc gtg gac aag agc agg tgg      632
170      Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
171      185                                190                                195
172      cag cag ggg aac gtc ttc tca tgc tcc gtg atg cat gag gct ctg cac      680
173      Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
174      200                                205                                210
175      aac cac tac acg cag aag agc ctc tcc ctg tct ccg ggt aaa ggt gga      728
176      Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys Gly Gly
177      215                                220                                225                                230
178      ggt ggt ggt atc gaa ggt ccg act ctg cgt cag tgg ctg gct gct cgt      776
179      Gly Gly Gly Ile Glu Gly Pro Thr Leu Arg Gln Trp Leu Ala Ala Arg
180      235                                240                                245
181      gct taatctcgag gatcc      794
182      Ala
183      <210> SEQ ID NO 6
184      <211> LENGTH: 247
185      <212> TYPE: PRT
186      <213> ORGANISM: Artificial Sequence
187      <220> FEATURE:
188      <223> OTHER INFORMATION: Description of Artificial Sequence:Fc-TMP
189      <400> SEQUENCE: 6
190      Met Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
191      1                                5                                10                                15
192      Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
193      20                                25                                30
194      Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser

```

PAGE: 5

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/428,082

 DATE: 11/10/1999
 TIME: 15:05:27

Input Set: I428082.RAW

```

195          35          40          45
196 His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
197          50          55          60
198 Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
199          65          70          75          80
200 Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
201          85          90          95
202 Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
203          100          105          110
204 Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
205          115          120          125
206 Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val
207          130          135          140
208 Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
209          145          150          155          160
210 Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
211          165          170          175
212 Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
213          180          185          190
214 Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
215          195          200          205
216 Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
217          210          215          220
218 Ser Pro Gly Lys Gly Gly Gly Gly Gly Ile Glu Gly Pro Thr Leu Arg
219          225          230          235          240
220 Gln Trp Leu Ala Ala Arg Ala
221          245
222 <210> SEQ ID NO 7
223 <211> LENGTH: 861
224 <212> TYPE: DNA
225 <213> ORGANISM: Artificial Sequence
226 <220> FEATURE:
227 <223> OTHER INFORMATION: Description of Artificial Sequence:Fc-TMP-TMP
228 <220> FEATURE:
229 <221> NAME/KEY: CDS
230 <222> LOCATION: (39)..(842)
231 <400> SEQUENCE: 7
232 tctagatttg ttttaactaa ttaaaggagg aataacat atg gac aaa act cac aca 56
233                               Met Asp Lys Thr His Thr
234                               1 5
235 tgt cca cct tgt cca gct ccg gaa ctc ctg ggg gga ccg tca gtc ttc 104
236 Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe
237          10          15          20
238 ctc ttc ccc cca aaa ccc aag gac acc ctc atg atc tcc cgg acc cct 152
239 Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
240          25          30          35
241 gag gtc aca tgc gtg gtg gtg gac gtg agc cac gaa gac cct gag gtc 200
242 Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
243          40          45          50
244 aag ttc aac tgg tac gtg gac ggc gtg gag gtg cat aat gcc aag aca 248

```

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

✓

Input Set: I428082.RAW

Line	Error/Warning	Original Text
1033	W "N" or "Xaa" used: Feature required	Ile Glu Gly Pro Thr Leu Arg Gln Trp Leu A
1048	W "N" or "Xaa" used: Feature required	Ile Glu Gly Pro Thr Leu Arg Gln Trp Leu A
1064	W "N" or "Xaa" used: Feature required	Ile Glu Gly Pro Thr Leu Arg Gln Cys Leu A
1079	W "N" or "Xaa" used: Feature required	Ile Glu Gly Pro Thr Leu Arg Gln Trp Leu A
1081	W "N" or "Xaa" used: Feature required	Xaa Ile Glu Gly Pro Thr Leu Arg Gln Trp L
1094	W "N" or "Xaa" used: Feature required	Ile Glu Gly Pro Thr Leu Arg Gln Trp Leu A
1096	W "N" or "Xaa" used: Feature required	Xaa Ile Glu Gly Pro Thr Leu Arg Gln Trp L
1109	W "N" or "Xaa" used: Feature required	Ile Glu Gly Pro Thr Leu Arg Gln Cys Leu A
1124	W "N" or "Xaa" used: Feature required	Ile Glu Gly Pro Thr Leu Arg Gln Trp Leu A
1136	W "N" or "Xaa" used: Feature required	Val Arg Asp Gln Ile Xaa Xaa Xaa Leu
1256	W "N" or "Xaa" used: Feature required	Gly Arg Val Arg Asp Gln Ile Xaa Xaa Xaa L
1362	W "N" or "Xaa" used: Feature required	Cys Thr Leu Arg Glu Trp Leu Xaa Xaa Cys
1372	W "N" or "Xaa" used: Feature required	Cys Thr Leu Arg Glu Trp Leu Xaa Xaa Xaa C
1382	W "N" or "Xaa" used: Feature required	Cys Thr Leu Arg Glu Trp Leu Xaa Xaa Xaa X
1392	W "N" or "Xaa" used: Feature required	Cys Thr Leu Arg Glu Trp Leu Xaa Xaa Xaa X
1402	W "N" or "Xaa" used: Feature required	Cys Thr Leu Arg Glu Trp Leu Xaa Xaa Xaa X
1512	W "N" or "Xaa" used: Feature required	Cys Xaa Glu Gly Pro Thr Leu Arg Glu Trp L
1522	W "N" or "Xaa" used: Feature required	Cys Xaa Xaa Glu Gly Pro Thr Leu Arg Glu T
1532	W "N" or "Xaa" used: Feature required	Cys Xaa Glu Gly Pro Thr Leu Arg Glu Trp L
1542	W "N" or "Xaa" used: Feature required	Cys Xaa Xaa Glu Gly Pro Thr Leu Arg Glu T
1639	W "N" or "Xaa" used: Feature required	Tyr Xaa Cys Xaa Xaa Gly Pro Xaa Thr Trp X
1649	W "N" or "Xaa" used: Feature required	Tyr Xaa Cys Xaa Xaa Gly Pro Xaa Thr Trp X
1651	W "N" or "Xaa" used: Feature required	Cys Xaa Xaa Gly Pro Xaa Thr Trp Xaa Cys X
1664	W "N" or "Xaa" used: Feature required	Tyr Xaa Cys Xaa Xaa Gly Pro Xaa Thr Trp X
1666	W "N" or "Xaa" used: Feature required	Xaa Cys Xaa Xaa Gly Pro Xaa Thr Trp Xaa C
1680	W "N" or "Xaa" used: Feature required	Tyr Xaa Cys Xaa Xaa Gly Pro Xaa Thr Trp X
1769	W "N" or "Xaa" used: Feature required	Pro Gln Gly Gly Xaa Gly Gly Thr Tyr Ser C
1812	W "N" or "Xaa" used: Feature required	Pro Gln Gly Gly Ser Ser Lys Xaa Gly Gly T
1871	W "N" or "Xaa" used: Feature required	Glu Glu Asp Xaa Lys
1886	W "N" or "Xaa" used: Feature required	Xaa Glu Asp Xaa Lys
1901	W "N" or "Xaa" used: Feature required	Xaa Ser Asp Xaa Lys
1914	W "N" or "Xaa" used: Feature required	Glu Glu Asp Cys Lys Xaa Glu Glu Asp Cys L
1927	W "N" or "Xaa" used: Feature required	Glu Glu Asp Xaa Lys Xaa Glu Glu Asp Xaa L
2120	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa X
2122	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Thr Trp Xaa Xaa Xaa Xaa X
2124	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Xaa
2304	W "N" or "Xaa" used: Feature required	Pro Xaa Phe Xaa Asp Tyr Trp Xaa Xaa Leu
3060	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Gln Xaa Tyr Xaa Xaa Xaa
3163	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Trp Tyr Gln Xaa T
3177	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Trp Tyr Gln Xaa T
3189	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Trp Pro Tyr Gln X
3201	W "N" or "Xaa" used: Feature required	Phe Ala Trp Thr Pro Gly Tyr Trp Gln Xaa T
3213	W "N" or "Xaa" used: Feature required	Phe Glu Trp Ala Pro Gly Tyr Trp Gln Xaa T
3225	W "N" or "Xaa" used: Feature required	Phe Glu Trp Val Pro Gly Tyr Trp Gln Xaa T
3237	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Trp Gln Xaa T
3251	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Trp Gln Xaa T
3265	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Xaa Trp Tyr Gln Xaa T
3279	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Xaa Trp Tyr Gln Xaa T
3323	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Xaa Val Tyr Trp Gln Xaa T
3337	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Xaa Gly Tyr Trp Gln Xaa T

Input Set: I428082.RAW

Line	Error/Warning	Original Text
3351	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Xaa Tyr Trp Gln Xaa T
3365	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Xaa Gly Tyr Trp Gln Xaa T
3403	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Trp Tyr Gln Xaa T
3420	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Trp Tyr Gln Xaa T
3436	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Trp Xaa Gln Xaa T
3450	W "N" or "Xaa" used: Feature required	Phe Ala Trp Thr Pro Gly Tyr Trp Gln Xaa T
3464	W "N" or "Xaa" used: Feature required	Phe Glu Trp Ala Pro Gly Tyr Trp Gln Xaa T
3478	W "N" or "Xaa" used: Feature required	Phe Glu Trp Val Pro Gly Tyr Trp Gln Xaa T
3492	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Trp Gln Xaa T
3508	W "N" or "Xaa" used: Feature required	Xaa Glu Trp Thr Pro Gly Tyr Trp Gln Xaa T
3524	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Ala Trp Tyr Gln Xaa T
3540	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Xaa Trp Tyr Gln Xaa T
3592	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Val Tyr Trp Gln Xaa T
3608	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Xaa Gly Tyr Trp Gln Xaa T
3622	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Xaa Tyr Trp Gln Xaa T
3636	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Xaa Gly Tyr Trp Gln Xaa T
3662	W "N" or "Xaa" used: Feature required	Xaa Glu Trp Thr Pro Gly Tyr Tyr Gln Xaa T
3676	W "N" or "Xaa" used: Feature required	Tyr Glu Trp Thr Pro Gly Tyr Tyr Gln Xaa T
3690	W "N" or "Xaa" used: Feature required	Phe Glu Trp Val Pro Gly Tyr Tyr Gln Xaa T
3706	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Ser Tyr Tyr Gln Xaa T
3722	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Asn Tyr Tyr Gln Xaa T
4159	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Arg Pro Leu Pro Pro Leu Pro X
4168	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Arg Pro Leu Pro Pro Ile Pro X
4177	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Arg Pro Leu Pro Pro Leu Pro X
4186	W "N" or "Xaa" used: Feature required	Arg Xaa Xaa Arg Pro Leu Pro Pro Leu Pro X
4195	W "N" or "Xaa" used: Feature required	Arg Xaa Xaa Arg Pro Leu Pro Pro Leu Pro P
4204	W "N" or "Xaa" used: Feature required	Pro Pro Pro Tyr Pro Pro Pro Pro Ile Pro X
4213	W "N" or "Xaa" used: Feature required	Pro Pro Pro Tyr Pro Pro Pro Pro Val Pro X
4222	W "N" or "Xaa" used: Feature required	Leu Xaa Xaa Arg Pro Leu Pro Xaa Xaa Pro
4234	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Arg Pro Leu Pro Xaa Leu Pro
4249	W "N" or "Xaa" used: Feature required	Pro Pro Xaa Xaa Tyr Pro Pro Pro Xaa Pro
4263	W "N" or "Xaa" used: Feature required	Xaa Pro Pro Xaa Pro Xaa Lys Pro Xaa Trp L
4280	W "N" or "Xaa" used: Feature required	Arg Pro Xaa Xaa Pro Xaa Arg Xaa Ser Xaa P
4289	W "N" or "Xaa" used: Feature required	Pro Pro Val Pro Pro Arg Pro Xaa Xaa Thr L
4301	W "N" or "Xaa" used: Feature required	Xaa Pro Xaa Leu Pro Xaa Lys
4315	W "N" or "Xaa" used: Feature required	Xaa Xaa Asp Xaa Pro Leu Pro Xaa Leu Pro
4325	W "N" or "Xaa" used: Feature required	Cys Xaa Xaa Arg Gly Asp Cys
4353	W "N" or "Xaa" used: Feature required	Xaa Phe Xaa Asp Xaa Trp Xaa Xaa Leu Xaa X
5474	W "N" or "Xaa" used: Feature required	Xaa Tyr Xaa Xaa Xaa Xaa Xaa Xaa Xaa X
5476	W "N" or "Xaa" used: Feature required	Gly Pro Xaa Xaa Xaa Xaa Xaa Xaa Thr Trp X
5478	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa X
5480	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa X
5482	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
5492	W "N" or "Xaa" used: Feature required	Xaa Tyr Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa X
5494	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Xaa Xaa Thr Trp Xaa Xaa X
5496	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa X
5498	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa X
5518	W "N" or "Xaa" used: Feature required	Cys Xaa Xaa Gly Pro Xaa Thr Trp Xaa Cys
5649	W "N" or "Xaa" used: Feature required	Phe Lys Leu Xaa Xaa Xaa Gly Tyr Val Tyr L
5670	W "N" or "Xaa" used: Feature required	Tyr His Xaa Leu Xaa Xaa Gly Tyr Met Tyr T

Input Set: I428082.RAW

Line	Error/Warning	Original Text
5730	W "N" or "Xaa" used: Feature required	Arg Xaa Glu Thr Xaa Trp Xaa
5740	W "N" or "Xaa" used: Feature required	Arg Xaa Glu Thr Xaa Trp Xaa
5750	W "N" or "Xaa" used: Feature required	Arg Gly Asp Gly Xaa
5760	W "N" or "Xaa" used: Feature required	Cys Arg Gly Asp Gly Xaa Cys
5770	W "N" or "Xaa" used: Feature required	Cys Xaa Xaa Arg Leu Asp Xaa Xaa Cys
5800	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Arg Gly Asp Xaa Xaa Xaa
5810	W "N" or "Xaa" used: Feature required	Cys Xaa Cys Arg Gly Asp Cys Xaa Cys
5850	W "N" or "Xaa" used: Feature required	Xaa Xaa Asp Asp Xaa Xaa Xaa Xaa
5860	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Asp Asp Xaa Xaa Xaa Xaa Xaa
5930	W "N" or "Xaa" used: Feature required	Tyr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa X
5932	W "N" or "Xaa" used: Feature required	Pro Xaa Xaa Xaa Xaa Xaa Xaa Thr Trp Xaa X
5934	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
5986	W "N" or "Xaa" used: Feature required	Cys Gln Xaa Arg Tyr Thr Asp Leu Val Ala I
5996	W "N" or "Xaa" used: Feature required	Arg Lys Xaa Asn Xaa Xaa Trp Thr Trp Val G
6007	W "N" or "Xaa" used: Feature required	Ala Glu Asn Trp Ala Asp Gly Glu Pro Asn A
6018	W "N" or "Xaa" used: Feature required	Cys Xaa Xaa Xaa Tyr Thr Xaa Leu Val Ala I
6028	W "N" or "Xaa" used: Feature required	Arg Lys Xaa Xaa Xaa Xaa Trp Xaa Trp Val G
6030	W "N" or "Xaa" used: Feature required	Thr Xaa Glu
6039	W "N" or "Xaa" used: Feature required	Ala Xaa Asn Trp Xaa Xaa Xaa Glu Pro Asn A
6049	W "N" or "Xaa" used: Feature required	Xaa Lys Xaa Lys Thr Xaa Glu Ala Xaa Asn T
6068	W "N" or "Xaa" used: Feature required	Xaa Xaa Asn Phe Phe Trp Lys Thr Phe Xaa S
7221	W "N" or "Xaa" used: Feature required	Xaa Cys Lys Gly Phe Phe Ala Leu Ile Pro L
7261	W "N" or "Xaa" used: Feature required	Xaa Cys Arg Ile Val Ile Arg Ile Arg Ile A
7276	W "N" or "Xaa" used: Feature required	Xaa Cys Lys Pro Gly His Lys Ala Arg Pro H
7291	W "N" or "Xaa" used: Feature required	Xaa Cys Arg Phe Ala Val Lys Ile Arg Leu A
7385	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa
7406	W "N" or "Xaa" used: Feature required	Xaa Ser Xaa Leu Asn
7434	W "N" or "Xaa" used: Feature required	Xaa Lys Lys Tyr Xaa Xaa Xaa
7518	W "N" or "Xaa" used: Feature required	Ser Ile Xaa Asn
7530	W "N" or "Xaa" used: Feature required	Lys Lys Tyr Leu Xaa
7572	W "N" or "Xaa" used: Feature required	Xaa Lys Lys Tyr Leu
7584	W "N" or "Xaa" used: Feature required	Xaa Lys Lys Tyr Leu
7596	W "N" or "Xaa" used: Feature required	Lys Lys Tyr Xaa
7728	W "N" or "Xaa" used: Feature required	Ser Ile Xaa Asn
7760	W "N" or "Xaa" used: Feature required	Lys Lys Tyr Leu Xaa
7832	W "N" or "Xaa" used: Feature required	Ser Ile Xaa Asn
7864	W "N" or "Xaa" used: Feature required	Lys Lys Tyr Xaa
7906	W "N" or "Xaa" used: Feature required	Lys Lys Tyr Leu Xaa
7968	W "N" or "Xaa" used: Feature required	Xaa Cys Lys Lys Tyr Leu Cys
9176	W "N" or "Xaa" used: Feature required	Thr Phe Val Tyr Trp Gln Pro Tyr Ser Ser H
9787	W "N" or "Xaa" used: Feature required	Asn Xaa Xaa Trp Xaa Xaa Pro Tyr Ala Leu P
9837	W "N" or "Xaa" used: Feature required	Ser Arg Ile Trp Xaa Xaa Pro Tyr Ala Leu P
9857	W "N" or "Xaa" used: Feature required	Trp Gly Tyr Tyr Xaa Xaa Pro Tyr Ala Leu P
9877	W "N" or "Xaa" used: Feature required	Val His Pro Tyr Xaa Xaa Pro Tyr Ala Leu P
9897	W "N" or "Xaa" used: Feature required	Xaa Xaa Ile Trp Tyr Gln Pro Tyr Ala Leu P
10597	W "N" or "Xaa" used: Feature required	Xaa Xaa Pro Tyr Gln Xaa Tyr Ala Leu Pro L
10631	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Trp Gln Xaa T
10643	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Tyr Gln Xaa T
10667	W "N" or "Xaa" used: Feature required	Phe Thr Trp Glu Glu Ser Asn Ala Tyr Tyr T
10715	W "N" or "Xaa" used: Feature required	Xaa Xaa Gln Xaa Tyr Xaa Xaa Xaa

Input Set: I428082.RAW

Line	?	Error/Warning	Original Text
10732	W	"N" or "Xaa" used: Feature required	Xaa Xaa Gln Xaa Tyr Xaa Xaa Xaa
10757	W	"N" or "Xaa" used: Feature required	Xaa Xaa Gln Xaa Tyr Xaa Xaa Xaa
10785	W	"N" or "Xaa" used: Feature required	Xaa Xaa Xaa Gln Xaa Tyr Xaa Xaa Xaa
10807	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Trp Gln Xaa T
10829	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Trp Tyr Gln Xaa T
10851	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Tyr Gln Xaa T
10902	W	"N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa X
10904	W	"N" or "Xaa" used: Feature required	Tyr Xaa Xaa Xaa Leu
11007	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Trp Gln Xaa T
11029	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Trp Tyr Gln Xaa T
11041	W	"N" or "Xaa" used: Feature required	Ala Glu Trp Thr Pro Gly Tyr Trp Gln Xaa T
11053	W	"N" or "Xaa" used: Feature required	Phe Ala Trp Thr Pro Gly Tyr Trp Gln Xaa T
11065	W	"N" or "Xaa" used: Feature required	Phe Glu Ala Thr Pro Gly Tyr Trp Gln Xaa T
11077	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Ala Pro Gly Tyr Trp Gln Xaa T
11089	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Ala Gly Tyr Trp Gln Xaa T
11101	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Ala Tyr Trp Gln Xaa T
11113	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Ala Trp Gln Xaa T
11125	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Ala Gln Xaa T
11137	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Trp Gln Xaa A
11149	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Gly Gly Tyr Trp Gln Xaa T
11163	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Trp Gln Xaa T
11175	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Gly Tyr Trp Gln Xaa Tyr
11189	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Xaa Gly Tyr Trp Gln Xaa T
11204	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Xaa Tyr Trp Gln Xaa T
11218	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Xaa Trp Tyr Gln Xaa T
11232	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Xaa Gly Tyr Trp Gln Xaa T
11244	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Asn Tyr Trp Gln Xaa T
11258	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Val Tyr Trp Gln Xaa T
11270	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Val Pro Tyr Trp Gln Xaa T
11284	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Trp Tyr Gln Xaa T
11298	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Trp Gln Xaa T
11312	W	"N" or "Xaa" used: Feature required	Xaa Glu Trp Thr Pro Gly Tyr Tyr Gln Xaa T
11324	W	"N" or "Xaa" used: Feature required	Tyr Glu Trp Thr Pro Gly Tyr Tyr Gln Xaa T
11336	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Val Pro Gly Tyr Tyr Gln Xaa T
11348	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Tyr Gln Xaa T
11360	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Ser Tyr Tyr Gln Xaa T
11372	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Asn Tyr Tyr Gln Xaa T
11384	W	"N" or "Xaa" used: Feature required	Ser His Leu Tyr Xaa Gln Pro Tyr Ser Val G
11396	W	"N" or "Xaa" used: Feature required	Thr Leu Val Tyr Xaa Gln Pro Tyr Ser Leu G
11408	W	"N" or "Xaa" used: Feature required	Arg Gly Asp Tyr Xaa Gln Pro Tyr Ser Val G
11420	W	"N" or "Xaa" used: Feature required	Asn Met Val Tyr Xaa Gln Pro Tyr Ser Ile G
11442	W	"N" or "Xaa" used: Feature required	Val Tyr Xaa Gln Pro Tyr Ser Val Gln
11454	W	"N" or "Xaa" used: Feature required	Thr Phe Val Tyr Trp Gln Xaa Tyr Ala Leu P
11468	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Tyr Gln Xaa X
11484	W	"N" or "Xaa" used: Feature required	Xaa Glu Trp Thr Pro Gly Tyr Tyr Gln Xaa X
11498	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Xaa Gln Xaa T
11514	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Xaa Gln Xaa T
11528	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Xaa Tyr Gln Xaa T
11544	W	"N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Xaa Tyr Gln Xaa T
11560	W	"N" or "Xaa" used: Feature required	Phe Glu Xaa Thr Pro Gly Tyr Tyr Gln Xaa T

Input Set: I428082.RAW

Line	? Error/Warning	Original Text
11576	W "N" or "Xaa" used: Feature required	Phe Glu Xaa Thr Pro Gly Tyr Tyr Gln Xaa T
11590	W "N" or "Xaa" used: Feature required	Xaa Glu Trp Thr Pro Gly Tyr Tyr Gln Xaa T
11605	W "N" or "Xaa" used: Feature required	Xaa Glu Trp Thr Pro Gly Tyr Tyr Gln Xaa T
11637	W "N" or "Xaa" used: Feature required	Arg Leu Val Tyr Xaa Gln Pro Tyr Ser Val G
11697	W "N" or "Xaa" used: Feature required	Xaa Asn Xaa Xaa Xaa Xaa Xaa Xaa Xaa X
11957	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Gln Xaa Tyr Ala Leu Pro Leu
11981	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Trp Gln Xaa T
12004	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Tyr Gln Xaa T
12016	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Trp Gln Xaa T
12030	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Trp Gln Xaa T
12044	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Trp Tyr Gln Xaa T
12058	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Tyr Gln Xaa T
12072	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Ala Tyr Trp Gln Xaa T
12086	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Ala Trp Tyr Gln Xaa T
12100	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Ala Tyr Tyr Gln Xaa T
12112	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Tyr Gln Xaa T
12124	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Trp Gln Xaa T
12136	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Trp Tyr Gln Xaa T
12162	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Trp Gln Xaa T
12176	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Trp Tyr Gln Xaa T
12190	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Gly Tyr Tyr Gln Xaa T
12206	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Ala Tyr Trp Gln Xaa T
12222	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Ala Trp Tyr Gln Xaa T
12238	W "N" or "Xaa" used: Feature required	Phe Glu Trp Thr Pro Ala Tyr Tyr Gln Xaa T
12440	W "N" or "Xaa" used: Feature required	Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa X
12442	W "N" or "Xaa" used: Feature required	Pro Xaa Xaa Xaa Xaa Xaa Xaa Thr Trp Xaa X
12444	W "N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
12454	W "N" or "Xaa" used: Feature required	Asp Leu Xaa Xaa Leu
13599	W "N" or "Xaa" used: Feature required	Cys Leu Arg Ser Gly Xaa Gly Cys
13609	W "N" or "Xaa" used: Feature required	Cys Xaa Xaa His Trp Gly Phe Xaa Xaa Cys
13619	W "N" or "Xaa" used: Feature required	Cys Xaa Pro Xaa Cys
13804	W Invalid/Missing Amino Acid Numbering	1 5 10